

AMENDMENTS TO THE CLAIMS

The listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims

1. (Currently Amended) A method to synchronize at least a user equipment to at least one base transceiver station belonging to a digital telecommunication network, in which radio signals transmitted and received by said base transceiver station are subdivided into frames (Fn) having predefined duration and each frame is subdivided into a predefined number of timeslots (Tn) and codes (Cn), said signals including at least a synchronization signal (S), which is transmitted by the base transceiver station and contains a modulation elementary units sequence suitable to identify the timeslot (T1) and the code (C1) of a service channel containing a system messages (M), the method comprising:

marking the synchronization signal (S), in at least one frame (Fx), by the base transceiver station;

transmitting a pointer message (P) in the service channel of such frame (Fx), or of a subsequent frame (Fx+n), by the base transceiver station;

detecting the marked synchronization signal (S') by the ~~mobile unit~~ user equipment;

receiving the pointer message (P) by the ~~mobile unit~~ user equipment;

extracting from the pointer message (P) the position of at least a system message (M') by the ~~mobile unit~~ user equipment, wherein

the base transceiver station marks the synchronization signal to indicate to the user

equipment the presence of a pointer message.

2. (Currently Amended) The ~~A~~ method according to claim 1 to synchronize at least a user equipment to at least one base transceiver station belonging to a digital telecommunication network, in which radio signals transmitted and received by said base transceiver station are subdivided into frames (Fn) having predefined duration and each frame is subdivided into a predefined number of timeslots (Tn) and codes (Cn), said signals including at least a synchronization signal (S), which is transmitted by the base transceiver station and contains a modulation elementary units sequence suitable to identify the timeslot (T1) and the code (C1) of a service channel containing a system messages (M), the method comprising:

marking the synchronization signal (S), in at least one frame (Fx), by the base transceiver station;

transmitting a pointer message (P) in the service channel of such frame (Fx), or of a subsequent frame (Fx+n), by the base transceiver station;

detecting the marked synchronization signal (S') by the user equipment;

receiving the pointer message (P) by the user equipment;

extracting from the pointer message (P) the position of at least a system message (M')
by user equipment, wherein

the marking of the synchronization signal (S) by the base transceiver station includes at least a polarity inversion of the relative modulation elementary units.

3. (Previously Presented) The method according to claim 2, wherein the marking of the synchronization signal (S) by the base transceiver station includes two polarity inversions of the relative modulation elementary units in two consecutive frames (F_x , F_{x+1}).

4. (Previously Presented) The method according to any of claims 1 to 3, wherein the extraction from the pointer message (P) of the position of at least a system message (M') includes the decoding of the frame number of such system message (M').

5. (Previously Presented) The method according to claim 4, wherein the extraction from the pointer message (P) of the position of at least a system message (M') includes the decoding of the multiframe number of such system message (M').

6. (Previously Presented) The method according to any of claims 1 to 3, wherein the marking of the synchronization signal (S) by the base transceiver station takes place with periodicity multiple of its own multiframe period.

7. (Currently Amended) A system to synchronize at least one user equipment to at least one base transceiver station belonging to a digital telecommunication network, in which radio signals transmitted and received from said base transceiver station are divided into frames (F_n) having predefined duration and each frame is subdivided in a predefined number of timeslots (T_n) and codes (C_n), said signals including at least a synchronization signal (S) which is transmitted by the base transceiver station and includes a sequence of modulation elementary

units suitable to identify the timeslot (T1) and the code (C1) of a service channel containing system messages (M), the system comprising:

at least a base transceiver station with means adapted: to mark the synchronization signal (S) in at least one frame (Fx), and to transmit a pointer message (P) in the service channel of this frame (Fx) or of a subsequent frame (Fx+n), said base transceiver station marking the synchronization signal to indicate to the user equipment the presence of a pointer message.

8. (Currently Amended) The system according to claim 7, wherein the system includes at least a user equipment with means adapted: to detect the marked synchronization signal (S') from said base transceiver station; to receive the pointer message (P) transmitted by said base transceiver station, and to extract from the pointer message (P) the position of at least a system message (M').

9. (Previously Presented) The system according to claim 7 or 8, wherein the system includes an additional base transceiver station adapted to detect the marked synchronization signal (S'), and synchronize in multiframe with said first base transceiver station through such marked synchronization signal (S').

10. (Previously Presented) The system according to claim 7, wherein the system is adapted to implement the method according to claim 1.

11. (New) A base transceiver station for a digital telecommunication network in which

radio signals transmitted from the base transceiver station are divided into frames (F_n) having predefined duration and each frame is subdivided in a predefined number of timeslots (T_n) and codes (C_n), said signals including at least a synchronization signal (S) which is transmitted by the base transceiver station and includes a sequence of modulation elementary units suitable to identify the timeslot (T_1) and the code (C_1) of a service channel containing system messages (M), the base transceiver station comprising:

means for generating a marked synchronization signal (S) in at least one frame (F_x) indicating the presence of a pointer message (P) to user equipment adapted to receive the transmitted radio signals, and

means for transmitting the pointer message (P) in the service channel of this frame (F_x) or of a subsequent frame (F_{x+n}).

12. (New) The base station according to claim 11, wherein the marked synchronization signal (S) includes at least a polarity inversion of the relative modulation elementary units.